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ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: DERIVATIVES OF AZITHROMYCIN

(57) Abstract: The invention relates to derivatives of azithromycin, processes for the manufacture thereof and pharmaceutical com-
positions thereof preferably together with azithromycin.

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP2004/004053

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07H17/08 A61K31/7048

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07H A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	HUNTER, R. P. ET AL: "Azithromycin metabolite identification in plasma, bile, and tissues of the ball python (Python regius)" JOURNAL OF VETERINARY PHARMACOLOGY AND THERAPEUTICS, 26(2), 117-121 CODEN: JVPD9; ISSN: 0140-7783, 2003, XP002289729 figure 1, right part.	1
X	DEBREMAEKER, D. ET AL: "Analysis of unknown compounds in azithromycin bulk samples with liquid chromatography coupled to ion trap mass spectrometry" RAPID COMMUNICATIONS IN MASS SPECTROMETRY, 17(4), 342-350 CODEN: RCMSEF; ISSN: 0951-4198, 2003, XP002289730 pages 343,349	1



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

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- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *Z* document member of the same patent family

Date of the actual completion of the international search

27 July 2004

Date of mailing of the international search report

05. 11. 2004

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INTERNATIONAL SEARCH REPORT

International Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PHARMEUROPA, vol. 13, no. 4, 2001, pages 750-754, XP009034417 the whole document	1
X	US 3 725 385 A (FREIBERG L) 3 April 1973 (1973-04-03) cited in the application the whole document	4,5
X	WO 00/42055 A (ROMAGNANO STEFANO ; BOTTA DANIELA (IT); MORIGGI ERMANNO (IT); ZAMBON S) 20 July 2000 (2000-07-20) page 7 - page 8	12

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2004/004053

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-3 (parts), 4-12

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-3 (parts), 4-12

Azithromycin derivatives bearing modifications on the desosamine part of the molecule according to formulas 2,3,4,6,7, pharmaceutical preparations and processes for the preparation thereof.

1.1. claims: 1-3 (parts), 4,5

Azithromycin derivative bearing a modification on the desosamine part of the molecule according to formula 6, pharmaceutical preparations and process for the preparation thereof.

1.2. claims: 1-3 (parts), 6,7

Azithromycin derivative bearing a modification on the desosamine part of the molecule according to formula 2, pharmaceutical preparations and process for the preparation thereof.

1.3. claims: 1-3 (parts), 8,9

Azithromycin derivative bearing a modification on the desosamine part of the molecule according to formula 3, pharmaceutical preparations and process for the preparation thereof.

1.4. claims: 1-3 (parts), 10,11

Azithromycin derivative bearing a modification on the desosamine part of the molecule according to formula 4, pharmaceutical preparations and process for the preparation thereof.

1.5. claims: 1-3 (parts), 12

Azithromycin derivative bearing a modification on the desosamine part of the molecule according to formula 7, pharmaceutical preparations and process for the preparation thereof.

2. claims: 1-3 (parts), 13-17

Azithromycin derivative bearing modification on the macrocyclic backbone according to formula 8, pharmaceutical preparations and process for the preparation thereof.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2004/004053

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